

The common Barn-owl of the Viti Islands is *Strix delicatula*, a species so *totally* different that it is unnecessary to enter more fully upon these differences. Suffice it to remark that the wings and the tarsi are *much* longer in our new species. This latter comes somewhat nearer to the light phase of *Strix novæ hollandiæ* (sive *personata*). But that is altogether a stouter bird, the feet and beak being much stronger than in *Strix oustaleti*, whereas the tarsi and the wings are proportionally longer in the new species. *Strix novæ hollandiæ* has the whole tarsi feathered with a thick white down; in *Strix oustaleti* the lower half of the tarsus is almost naked, and the upper very thinly feathered.

There are also many and very striking differences in the colours of the two birds. The minute whitish vermiculation on the upper parts of *Strix novæ hollandiæ* is entirely wanting in *Strix oustaleti*. The spots on the sides of the abdomen are more or less enlarged and bar-like in *Strix novæ hollandiæ*; they are of the same size and form as those on the breast and epigastrium in *Strix oustaleti*. The number of the dark bands in the primaries and the tail-feathers is six in *Strix novæ hollandiæ*, four in *Strix oustaleti*. The colours of the tail-feathers are very different in the two birds, the interstices being thickly mottled with brown and whitish in *Strix novæ hollandiæ*, fulvous and without any markings in *Strix oustaleti*. The apical part of the greater remiges is broadly mottled with whitish and brown in *Strix novæ hollandiæ*, whereas it is of a uniform dark blackish brown in *Strix oustaleti*.

The existence of *two species of Barn-owls* in so small an island as Viti-Levu is a curious fact.

The type specimens of this description are and will remain in the Museum Godeffroy at Hamburg.

## 2. On Female Deer with Antlers.

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The occasional abnormal development of antlers in female Deer (outside the genus *Rangifer*) presents some points of interest, as bearing on the arrangement of the family *Cervidæ*, and on the probable evolutionary history of these weapons.

My attention has been lately turned to this subject by the record of such an instance in the Roe deer (*Capreolus capræa*, Gray<sup>1</sup>), in the 'Field' of the 18th January; and I am indebted to the courtesy of the gentleman who shot it, Mr. John B. Fergusson,

<sup>1</sup> I may here note that the name *europæus* has been supposed to have priority over Gray's specific title, being sometimes quoted as from J. Brookes's 'Catalogue' of his Anatomical and Zootomical Museum (1830), a reference which has even found its way into Engelmann's 'Bibliotheca.' A copy of this list is preserved in the library of the Royal Society; and it proves to be merely a sale-catalogue, with no claim whatever to be regarded as a scientific publication.

for further particulars, which add much to the interest of the case. The doe in question was killed on the estate of Sir James Fergusson, Bart., of Kilkerran, Ayrshire, on the 5th January, 1879. The antlers were "in the velvet," one being a simple curved snag about six inches in length, while the other was represented by a short stump. The animal was in good condition, and was *not* barren; for on the day she was shot she was accompanied by a last-year's fawn, and her nipples showed evident signs that she had recently been suckling. Most unfortunately the head was not preserved; but Professor Flower has kindly called my attention to the



Skull of female Roe-deer, with antlers.

skull of another fertile antlered doe Roedeer, which is now in the Museum of the Royal College of Surgeons. This example was shot by the Earl of Egremont near Petworth, Sussex, in 1810<sup>1</sup>, and presented by him to the Museum. The antlers, as shown in the drawing, have evidently been covered with the velvet. The right is a simple curved snag about three inches in length, with a well developed burr; the other is represented by a small mushroom-shaped burr without any beam. Lord Egremont in his letter expressly states that the Deer was "a very old and uncommonly large female, with two young ones in her."

<sup>1</sup> Cat. Coll. R. Coll. Surg. part v. 1831, p. 17. The exact date given in Lord Egremont's letter is "2nd August, 1810;" but from the context it is evident that this is a misprint for April.

In Germany, where the Roedeer is more plentiful than in this country, many does with antlers have been recorded, no fewer than *forty* instances being known to Dr. Altum<sup>1</sup>. Most of these were barren animals, and the antlers were always of a more or less abortive character, except in one case, in which the normal male form was well reproduced; but several were fertile, and were either with young when they were killed, or had recently given birth to fawns. The abnormal antlers appear to be always persistent, and to be permanently covered with the velvet.

In America the same abnormality appears not to be very uncommon in the Virginian Deer (*Cariacus virginianus*, Bodd.). Judge Caton says that he has seen many accounts of does with small, simple, velvet-clad antlers, and describes such a head in the National Museum at Washington, in which the beams are about six inches long. He has heard of a similar case of a doe killed in California, probably *Cariacus columbianus* (Richardson)<sup>2</sup>; and Mr. Dresser informs me that in New Brunswick he once examined in the flesh a female Moose (*Alces machlis*) with well-developed bifurcated antlers.

In the Deer of the restricted genus *Cervus*, on the other hand, the occurrence of antlered females seems to be extremely rare. In all the voluminous literature of German woodcraft Dr. Altum has only been able to find records of *five* cases of the abnormality in the Red Deer (*Cervus elaphus*, Linn.), of which the latest dates from early in the last century<sup>3</sup>. I have not been able to find any record of its occurrence in the Fallow Deer, nor, in fact, in any other species of *Cervus*, except the Sambur, *C. aristotelis*, Cuv., of which Mr. Vincent Ball informs me that there is a hind with a single antler now living in the Zoological Gardens at Calcutta.

We thus find, scanty as is the hitherto recorded evidence, that the development of antlers in the female is a not very uncommon abnormality in the two best-known genera of Sir Victor Brooke's section of *Telemetacarpi* (*Capreolus* and *Cariacus*), occurs in a third (*Alces*), and is normal in a fourth (*Rangifer*), while, as far as we know, it is extremely rare in the *Plesiometacarpi*. As the former division is the least specialized, these facts seem to me to indicate that the abnormalities are instances of atavism, and that the primeval Deer probably possessed antlers in both sexes. I make this suggestion, however, with all deference; for the contrary view has been adopted by Mr. Darwin, who holds that both the antlers of the *Cervidæ* and the horns of the *Bovidæ* were primarily and essentially sexual weapons, first developed in the males only. "When the males are provided with weapons which in the female are absent, there can hardly be a doubt that these serve for fighting with other males, and that they are acquired through sexual selection, and were transmitted to the male sex only"<sup>4</sup>. Of the Reindeer he says:—"We may conclude that the possession of fairly well-developed horns by the female Reindeer is due to the males having at first acquired them as weapons for fighting with other males, and, secondarily, to their development from some

<sup>1</sup> Forstzoologie, i. p. 230.

<sup>2</sup> Antelope and Deer of America, pp. 232, 233.

Forstzoologie, i. p. 211.

<sup>4</sup> Descent of Man (2nd ed.), p. 502.

